AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1.   (Original) A process for calibration of a radiological imaging device comprising:

moving the device with respect to a calibration object and performing a series of acquisitions, each acquisition being associated to a calibration position of the device;

based on the acquisitions performed, determining the projection parameters associated to each calibration position of the device;

for an additional position that has not been taken by the device during the acquisition step, determining the projection parameter values associated to this additional position according to the parameters associated to the calibration positions.

2.   (Currently Amended) The process according to claim 1 wherein the projection parameters comprise geometrical parameters that are [is]] characteristic of the positioning of the device in space.

3.   (Original) The process according to claim 1 wherein the projection parameters comprise geometrical parameters that are characteristic of means for emitting radiation and means for acquiring an image.

4.   (Original) The process according to claim 2 wherein the projection parameters comprise geometrical parameters that are characteristic of means for emitting radiation and means for acquiring an image.

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5.   (Original) The process according to claim 1 wherein the projection parameters include coefficients of a global matrix that defines the projection of an object in the three dimensional space in a plane of the means for acquiring an image.

6.   (Original) The process according to claim 2 wherein the projection parameters include coefficients of a global matrix that defines the projection of an object in the three dimensional space in a plane of the means for acquiring an image.

7.   (Original) The process according to claim 3 wherein the projection parameters include coefficients of a global matrix that defines the projection of an object in the three dimensional space in a plane of the means for acquiring an image.

8.   (Original) The process according to claim 4 wherein the projection parameters include coefficients of a global matrix that defines the projection of an object in the three dimensional space in a plane of the means for acquiring an image.

9.   (Original) The process according to claim 1 wherein the projection parameters associated to the additional position are determined by an interpolation or extrapolation law of the projection parameters associated to the calibration positions.

10.   (Currently Amended) The process according to claim 5 [[1]] wherein the projection parameters associated to the additional position are determined by an interpolation or extrapolation law of the projection parameters associated to the calibration positions.

11.   (Original) The process according to claim 2 wherein the projection parameters associated to the additional position are determined by an interpolation or extrapolation law of the projection parameters associated to the calibration positions.

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12.   (Original) The process according to claim 3 wherein the projection parameters associated to the additional position are determined by an interpolation or extrapolation law of the projection parameters associated to the calibration positions.

13.   (Original) The process according to claim 4 wherein the projection parameters associated to the additional position are determined by an interpolation or extrapolation law of the projection parameters associated to the calibration positions.

14.   (Currently Amended) The process according to claim 13 [[2]] wherein the interpolation law is linear, polynomial or rational.

15.   (Currently Amended) The process according to claim 12 [[3]] wherein the interpolation law is linear, polynomial or rational.

16.   (Currently Amended) The process according to claim 11[[4]] wherein the interpolation law is linear, polynomial or rational.

17.   (Currently Amended) The process according to claim 10 [[5]] wherein the interpolation law is linear, polynomial or rational.

18.   (Original) The process according to claim 9 wherein the interpolation law is linear, polynomial or rational.

19.   (Original) The process according to claim 1 wherein the projection parameters associated to the additional position are determined by a combination of the projection parameters associated to the calibration positions of the device closest to the additional position, the number of positions taken into account being less than five.

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20.   (Original) The process according to claim 2 wherein the projection parameters associated to the additional position are determined by a combination of the projection parameters associated to the calibration positions of the device closest to the additional position, the number of positions taken into account being less than five.

21.   (Original) The process according to claim 3 wherein the projection parameters associated to the additional position are determined by a combination of the projection parameters associated to the calibration positions of the device closest to the additional position, the number of positions taken into account being less than five.

22.   (Original) The process according to claim 4 wherein the projection parameters associated to the additional position are determined by a combination of the projection parameters associated to the calibration positions of the device closest to the additional position, the number of positions taken into account being less than five.

23.   (Original) The process according to claim 5 wherein the projection parameters associated to the additional position are determined by a combination of the projection parameters associated to the calibration positions of the device closest to the additional position, the number of positions taken into account being less than five.

24.   (Original) The process according to claim 9 wherein the projection parameters associated to the additional position are determined by a combination of the projection parameters associated to the calibration positions of the device closest to the additional position, the number of positions taken into account being less than five.

25.   (Original) The process according to claim 14 wherein the projection parameters associated to the additional position are determined by a combination of the projection parameters associated to the calibration positions of the device closest to the additional position, the number of positions taken into account being less than five.

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26.   (Original) The process according to claim 19 wherein the number of positions taken into account is equal to 2.

27.   (Currently Amended) The process according to claim 1 wherein during the step where the projection parameters associated to each device calibration position are determined, some of the projection parameters are defined by a law dependent on information known beforehand and/or other geometrical projection parameters. |

28.   (Currently Amended) The process according to claim 2 wherein during the step where the projection parameters associated to each device calibration position are determined, some of the projection parameters are defined by a law dependent on ~~information known beforehand and/or~~ other geometrical projection parameters. |

29.   (Original) The process according to claim 3 wherein during the step where the projection parameters associated to each device calibration position are determined, some of the projection parameters are defined by a law dependent on information known beforehand and/or other geometrical projection parameters.

30.   (Original) The process according to claim 4 wherein during the step where the projection parameters associated to each device calibration position are determined, some of the projection parameters are defined by a law dependent on information known beforehand and/or other geometrical projection parameters.

31.   (Original) The process according to claim 5 wherein during the step where the projection parameters associated to each device calibration position are determined, some of the projection parameters are defined by a law dependent on information known beforehand and/or other geometrical projection parameters.

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32.   (Original) The process according to claim 9 wherein during the step where the projection parameters associated to each device calibration position are determined, some of the projection parameters are defined by a law dependent on information known beforehand and/or other geometrical projection parameters.

33.   (Original) The process according to claim 14 wherein during the step where the projection parameters associated to each device calibration position are determined, some of the projection parameters are defined by a law dependent on information known beforehand and/or other geometrical projection parameters.

34.   (Original) The process according to claim 19 wherein during the step where the projection parameters associated to each device calibration position are determined, some of the projection parameters are defined by a law dependent on information known beforehand and/or other geometrical projection parameters.

35.   (Original) The process according to claim 26 wherein during the step where the projection parameters associated to each device calibration position are determined, some of the projection parameters are defined by a law dependent on information known beforehand and/or other geometrical projection parameters.

36.   (Currently Amended) A process for reconstruction a three dimensional model from acquired images from a device having means for emitting radiation comprising:

a calibration phase comprising:

moving the device with respect to a calibration object and performing a series of acquisitions, each acquisition being associated to a calibration position of the device;

based on the acquisitions performed, determining the projection parameters associated to each calibration position of the device;

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for an additional position that has not been taken by the device during the acquisition step, determining the projection parameter values associated to this additional position according to the parameters associated to the calibration positions; [[.]]

an acquisition phase comprising:

moving the device with respect to an object to be imaged and carrying out a series of acquisitions, each acquisition being associated to a calibration position or an additional position of the means for emitting radiation; and

reconstructing a three-dimensional model of the object from the images acquired and the associated projection parameters, determined during the calibration phase.

37.   (Original) An apparatus for calibrating a radiological imaging device comprising:

means for emitting radiation;

means for providing a calibration object;

means for acquiring images of the calibration object;

means for moving the device with respect to the calibration object;

means for performing a series of acquisitions, each acquisition being associated to a calibration position of the device;

means for determining projection parameters associated to each calibration position of the device based on the acquisitions performed; and

means for an additional position that has not been taken by the device during the acquisition to determine projection parameters values associated to this additional position according to the parameters associated to the calibration positions.

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38.   (Currently Amended) An apparatus for reconstructing a three dimensional model from acquired images comprising:

means for emitting radiation;

means for providing a calibration object;

means for acquiring images of the calibration object;

means for moving the device with respect to the calibration object;

means for providing an object to be imaged;

means for performing a series of acquisitions, each acquisition being associated to a calibration position of the device;

means for determining projection parameters associated to each calibration position of the device based on the acquisitions performed;

means for an additional position that has not been taken by the device during the acquisition to determine projection parameters values associated to this additional position according to the parameters associated to the calibration positions; and

means for reconstructing the three-dimensional model of the object from the images acquired and the associated projection parameters, determined during the calibration phase .

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